L5E1

Mini High Speed Dome Camera

User Manual

Please read this manual carefully before installation and use

(Announcement: This manual will be subject to revision without further notification)

L5E. V1-080122

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Precautions:

1.Non-techinician is forbidden to operate this dome device before reading this manual carefully.

2.Cut the power supply off before operating the dome device to avoid damage caused by mal-operation.

3.Interior of the Dome device are precision optical and electrical instruments. Heavy pressure, shock and other incorrect operations should be prevented. Otherwise, may cause damage on product.

4. Please do not remove and disassemble any internal parts of Dome video camera by self in order to avoid normal

Chapter One Product Overview

This dome device is a hi-tech monitoring product integrating high-resolution color camera and multi-function decoder, which minimizes the wiring and installation process and enhances the reliability of the system as well as facilitates installation and maintenance. It has the advantages of elegant appearance, flexibility, simple operation and high compatibility.

1. Integrated multi-protocol decoder

a. The build-in communication decoder integrates the communication protocol of Pelco_D or P with baud rate from 2400bps to 19200bps (can be realized by setting the position of dip switch inside the dome device).

b. RS485 communication control; the range of dome address is 0～255.

2. Integrated swivel and tilt movement

A. Pan rotation is 360° endless; Tilt movement is 0～90°, by using the key boards speed can be adjustable from 0.1～240°/s.

b. The low speed running is stable with ultra-low noise and without image shake.

c. by pushing down the Joystick till the point of 90° the camera will auto lift up 10 degree. Monitoring all directions with ±0.1° precision.

3. Function description

a. **128 -preset positions:** All data of preset position will be saved on time and will not be lost when power is suddenly off.

b. **Free selection of Pan scan direction:** support the **Pan** scan with the shortest distance between two points (scan speed: 0.1～100 degree/second, variable speed selection available). Besides, tilt movement can be achieved manually at the same time.

c. **Six groups of programmable tour:** It has the functions of **tour** setting and call out, as well as saving the directional used programmed **tour**. Each group of tour contains 16 preset positions, the running speed and dwell time of which can be set and the data will not be lost when the power is off. (This function depends on the function and operation mode of controller such as keyboard adopted or DVR card.)

d. **Power off memory:** If the power is suddenly off when the dome device is in operation pan scan or **tour**, the dome device will resume the Pan scan or **tour** when the power is on again.

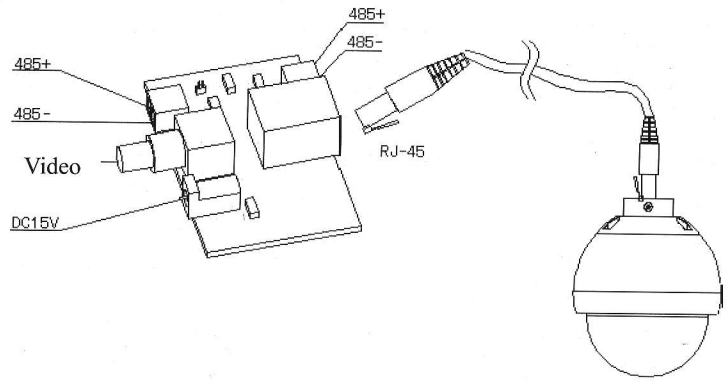
e. **Home position function** The time of **Home position** can be set. If the dome device does not receive and control within preset time duration, the dome will return to the preset position of number "1".(**Home position)**

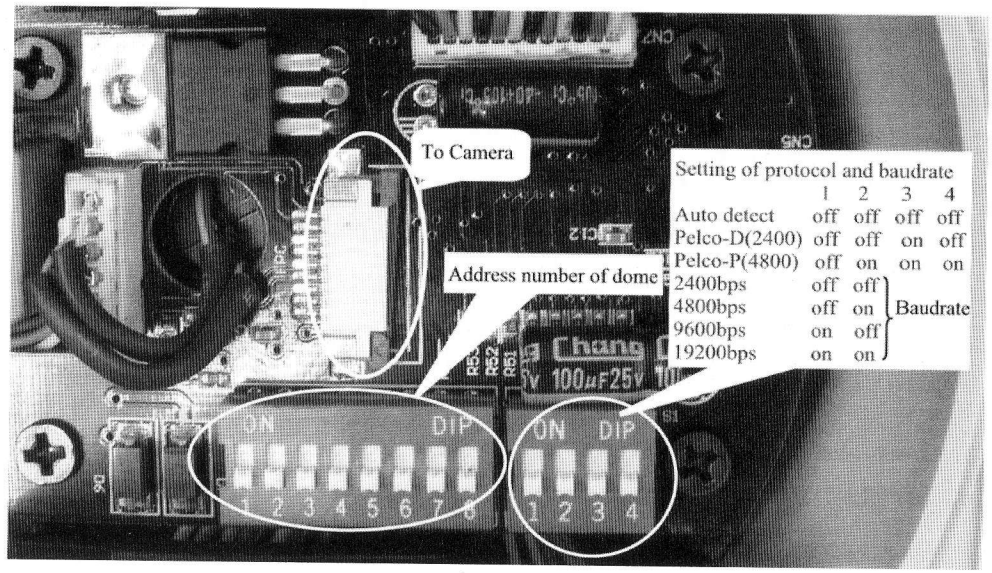
f. **Intelligent three-dimension tour scan:** When monitoring manually by means of joystick, the dome unit automatically continues the rotation and tilt operation.

Chapter Two Fast Operation Guide of Dome Device

1>. **Wiring** (Please do not turn the power on).

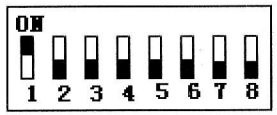
Please carry out the wiring and installation according to below illustration.





2>.The communication protocol of dome device is PELCO-D 2400BPS/PELCO-P 4800BPS

3>. Setting the device address (Turn the power off when setting, and restart the device after revision).

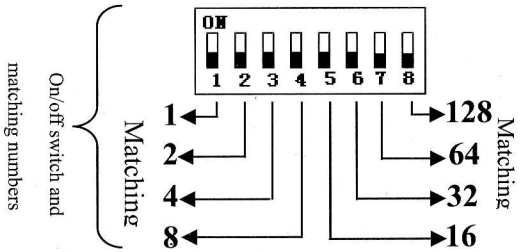


The figure shows: Address of the dome device: No. 1

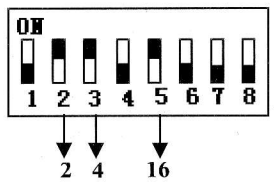
Set address for dome (Please refer to detailed parameter in next chapter)

This dipswitch located on PCB in the dome device

Setting method: The sum of switch numbers when it is at ON position is the address of dome device.



Calculation example of dome device address:



（**2+4+16=22**）the address is **22**.

4>. Install camera. (Please refer to camera installation for details).

Attention: 1. Do not connect the camera and dome device with FFC in a wrong way.

2. The holes are for different cameras. Please adjust according to the practical overall dimensions and ensure the fastness when installation is completed.

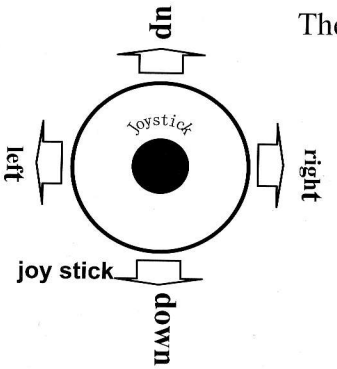
5>. Connect the power of dome device.

At this moment, the self-test (rotation) of dome device and self-test (there will be image on the monitor) of camera can be seen.

6>. Set the protocol, baud rate and address of the keyboard controller identical with those of dome device. (Please refer to keyboard controller instruction manual).

7>. Start testing.

When the entire above are ready, the testing to dome device can be started.



The directions (up, down, left and right) of the dome device can be controlled by using the Keyboard controller, as indicated in the figure.

Note: the working of dome device is normal

.8>. **Completed.** (Summary).

1. If the performance of item 7 is normal, it indicates the system is normal. Please do not change the wiring and various setting to avoid fault and unnecessary damage and loss.
2. If the performance of item 7 is irregular, or only one item works normally, please check the wiring (item 1 and 4) and setting (item 2, 3 and 6) carefully.

Remarks:

1. Please read this manual and test guide carefully before using this product to get to understand each electric parameter.
2. Please refer to the attached operation manual for more functions of the dome device.
3. Non-qualified technicians are forbidden to conduct and test, debugging and operation toward this product.

Chapter Three Function Operation

I. The setting of preset direction position (note: the operation mode differs for different dome device controller, Please read the manual of the controller before operation)

Preset direction position: No. 1～50, 64 ~77 and 102~165 (total 128 presetting positions)

Function short-cut preset position: No.51～63, No.78～101.

Save preset position (Example):

Method One: First input " PRESET " , and then input the number of preset position and press " ENTER " at the end. (PRESET + Preset position number + ENTER)

Method Two: First input preset position number, and then press " SHOT " , and press " ON " at the end.
(Preset position number + SHOT + ON)

Call preset position (Example):

Method One: First input " CALL " , and then input preset position number, and press " ENTER " at at the end. (CALL + Preset position number + ENTER)

Method Two: First input preset position number, and then press " SHOT " , and press " ACK " at the end.
(Preset position number + SHOT + ACK)

Clear preset position (Example):

Method One: First input " PRESET " , and then input the preset position number and press " OFF " at the end.(PRESET + Preset position number + OFF)

Method Two: First input the preset position number, and then press " SHOT " , and press " OFF " at the end.
(Preset position number + SHOT + OFF)

II. Setting of the Pan scan between two points (Example:Method one)

1) The dome device conduct auto Pan Scan between two points.

2) Users can set the starting point by pressing "**PRESET+52+ENTER**" and set the ending point by pressing "**PRESET+53+ENTER**".

3) The setting of Pan scan speed: user only need to maintain a certain manual scan speed for more than 3 seconds and press "**CALL+51+ENTER**" to save this speed as Pan scan speed, press "**CALL+52+ENTER**" to start Pan scan.

4) The dwell time of "starting point" and "ending point" of Pan scan is **2** seconds.

5) Stop it by operate "Pan"or "Tilt".(move the joystick of the controller).

II. Operation instruction about the tour scan movement (Example:Method one)

1. Auto point by point scan from preset point number **1** to number **16**, if a certain point is not set or cleared, that point will not be scan when "tour scan" is in progress.
2. The dwell time of preset point in tour is **4** seconds.
3. The defaulted tour function can be executed by inputting "**PRESET+51+ENTER**".
4. Please refer to the operation manual of keyboard control for the operation of other six tour tracks.
5. Stop it by operate "Pan"or "Tilt".(move the joystick of the controller)

Home position（This means the time duration for the dome device to return to the No. 1 direction preset position when no-man control occurs）**(Example:Method one)**

1. Start this function by pressing "**CALL+100+ENTER**".
2. The time of returning to preset direction position number 1 can be set to 1 minute / 2 minutes / 4 minutes / 8 minutes / 10 minutes by pressing "**CALL+95+ENTER**" / "**CALL+96+ENTER**" / "**CALL+97+ENTER**" / "**CALL+98+ENTER**" / "**CALL+99+ENTER**"
3. Disable this function by pressing "**PRESET+100+ENTER**"

Intelligent three-dimension tour scan setting (Example:Method one)

When the user is monitoring with manual Pan scan, he only needs to maintain the scan speed for more than 3 seconds to continue the scan speed and direction monitoring, and then press "**CALL+101+ENTER**" to auto continue the manual Pan scan action. At the same time, the tilt movement can be changed.

VI Camera menu operation: Invoke(Call) No.57 preset position entry.

1) Input "Tele" or "Wide" command for cursor movement and option selection

2) Input iris "Open"/"Close" or focus "Near"/"Far" for enter the option or changing the setting value

Function Table:

Number of preset position	Control Object	Definition of Keyboard Operation	
		Call preset position	Save preset position
51	Pan-tilt Compensation Control	Save line-scanning speed	Enable system default cruise track
52		Enable line scanning	Set starting point of scanning
53		System hold	Set ending point of scanning
55	Background Light Compensation *	On	Off
58	Digital Zoom *	On	Off
59	Focus	Auto	Manual
60	Iris	Auto	Manual
100	Home position	Enable	Disable
95	Dwell time setting for the Home position function	1 minute	
96		2 minutes	
97		4 minutes	
98		8 minutes	
99		10 minutes	
101	Intelligent manually horizontal continuous scanning	ON	

Chapter Four Trouble Shooting

Problems	Possible Causes	Solutions
After power on, no motion and no image.	Power supply damage or low power	Replace
	Wrong power cable wiring	Correct
	Engineering wiring fault	Detect
Abnormal self detect, normal image with motor sound	Mechanical fault	Repair
	Tilted camera	Reposition in the right way
	Lower power supply	Replace with appropriate power supply and optimally place the power supply near the dome device
Normal self detect, but no image	Wrong video wiring	Correct
	Bad contact of video cable	Detect
	Camera damage	Replace
Self detect success, but out of control	Wrong wiring of control signal cable	Correct
	Unmatched dome device address	Select again
	Unmatched protocol	Adjust protocol to match the control system and power on again
Unstable image	Bad contact of video cable	Detect
	Low power supply	Replace
Dome device out of control	Abnormal self detect	Power on again
	Bad contact of control cable	Detect
	Wrong with main device operation	Power on the main device again
	Overload or too long communication distance	1. Confirm terminal impedance 2. Raise the distributor
Vague image	Focusing is not at the best position	Open the dome and readjust

Chapter Five Major Technical Parameters

Specification	Power	DC16V 1000mA
	Power consumption	10VA (camera exclusive)
	Weight	1.0Kg (camera exclusive)
	Installation mode	Ceiling type and curved tube type (available for selection)
	Relative humidity	10-75%（without condensation）
	Working temperature	-30℃~50℃（Normal range）
Basic functions of dome device	Manual pan speed	0～240°/s
	Manual tilt speed	0～120°/s
	Speed of recall preset position	300°/s
	preset position	128
	Tour track	6 tour tracks